UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
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In Reply Refer to:
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December 18, 2000

EMS TRANSMISSION   12/21/2000
Instruction Memorandum No. OR-2001-015
Expires: 9/30/2001

To: DMs, DSDs, Staff and Branch Chiefs

From: DSD, Management Services

Subject: Noxious Weeds Spatial Data Standard Correction

An error has been found in the attribute for location accuracy (ACC) in the Noxious Weeds spatial data standard. In this attribute the TR160 code is erroneously labeled as being for 1/4 section (320 acres) when it should have said 160 acres. Also, the TR320 code (for the 1/2 section, 320 acres) was dropped out altogether. This has been corrected in this Instruction Memorandum. The Check In/Check Out tools used to edit the GIS coverages have also been corrected. No other changes have been made.

If you have any questions about this standard or this change, contact one of the following:

TITLE	NAME	PHONE NUMBER	EMAIL ADDRESS
State Data Steward	Robert Bolton	541_947_6114	rbolton@or.blm.gov
State Data Administrator	Stanley Frazier	503_952_6009	sfrazier@or.blm.gov
GIS Technical Support	Pam Keller Dan Wickwire	541_573_4486 503_952_6272	pkeller@or.blm.gov dwickwir@or.blm.gov

Signed by   Authenticated by
John K. Keith,   Mary O'Leary
Acting DSD, Management Services   Management Assistant

1 Attachment
        Noxious Weeds Final Data Standard (7 pp)

Distribution
WO510 (Rm 775, LS)

Noxious Weeds Spatial Data Standard

Date: 12/14/2000

LAYER DESCRIPTION

This is a depiction of Noxious Weed infestations in Oregon and Washington (BLM). The layer is in a Regions coverage. The use of regions (an ArcInfo feature) allows the maintenance, analysis and display of overlapping polygons.

Attributes are provided that give basic information about the weed infestation site such as the species of weed, how many plants there are, when the site was discovered, whether this is a current or historical site, etc.

SECURITY

This layer does not contain any sensitive information that might be withheld under the Freedom of Information Act and is generally considered releasable to the public.

REGIONS

Regions are an ArcInfo "feature" like points, lines, and polygons are features, but built on existing polygons (similarly to how polygons are built on lines and label points). Regions are best described as simply an attribute handling feature, a means to organize overlapping polygons and track which ones go together. A region is a group of one or more polygons and any one polygon may belong to more than one region. The scenario that calls for regions is one in which data belong together on one coverage but the areas have unbounded overlap. The following is how Regions would work for Noxious Weeds:

This coverage holds noxious weed populations (not continuous vegetative cover, but isolated populations) where the attributes leading to overlap are both time (population areas change over time) and also species (an unbounded number of species can occur in each area). Without the use of Regions, we would either have many coverages for each year (if you're content to track change only year to year and not on a finer time interval) and for each species (e.g.,TRLE1980, TRLE1981, ONAC1980, etc.) OR have an unbounded number of attributes most of which will be empty.

STATE DATA STEWARD

The State Data Steward for the Noxious Weeds Spatial Data layer is:
   Bob Bolton
   Lakeview District
   (541) 947_6114

DATA COLLECTION AND MAINTENANCE PROTOCOLS

Accuracy Requirements: A wide range of positional accuracy is acceptable within the WEEDS theme. The ACC field within the region subclass attribute table contains feature level accuracy information stratified by input method and the absolute accuracy (how close, in +/_ feet, the GIS mapped feature is to the actual ground feature). This schema allows for a variety of data to be included within the theme yet allows for lower quality data to be excluded where appropriate for using or sharing the data.

Collection and Input Protocols: The District Data Steward will develop standard field data collection methods and work with the GIS Coordinator to develop corresponding standard GIS input methods. The most common methods of field inventory of weed infestation areas is by manuscripting onto a map base (either paper or on-screen with DRG or DOQ backdrop) or by GPS coordinate files. GPS coordinates may be for polygon area boundaries, lines (e.g., road infestations) or points, but point and line data must be converted to polygons before input into the WEEDS cover. This is easily accomplished with the ARC buffer command. Buffer radius is determined by the data collector to best approximate the extent of the infestation on the ground.

Update Transactions: The unit of processing for updating the WEEDS theme is the district. This means that district-wide transactions will be initiated by editors within the districts to update the theme. Editors will "check-out" their district's WEEDS theme features. They will then add, delete or modify the features prior to "check-in".   The district GIS Coordinator will approve update processes and provide assistance and oversight.

Update Frequency: Once the WEEDS theme has been created for a district it is the responsibility of the District Data Steward to ensure that the theme remains current. Bringing the theme up to a current level should take place at least once per year if not more frequently. It is also the responsibility of the Data Steward to ensure that any database external to the GIS be kept current and consistent with the GIS.

QUALITY CONTROL

Transaction Level: This level of quality control occurs during feature update and when a district has completed an update and the resulting WEEDS theme is provided back for inclusion into the GIS corporate library. During update, the new information must be compared to existing data in the WEEDS theme to determine if (a) the new data is truly new and independent of old data; (b) if it completely replaces old data; or (c) if it modifies old data either by improving the accuracy of the old boundary or by changing the old boundary to historical status and adding a new boundary. New feature boundaries are to be brought in and edited as arc features and in such a way as to minimize slivering when intersected with existing features. Attributes are only added to the region feature subclass (to the .patWEEDS).   All attributes are required, but old records (prior to the date this standard is published) may have blank fields. All text values are upper case. Detailed descriptions of the attributes is found elsewhere in this standard.   SITE_ID is the site record number (integer) assigned by the District Data Steward and/or the GIS Coordinator. This is the linking field to external weed database(s), if any. GIS_ID is assigned when the weed site is input into the WEEDS theme and is simply a sequential integer unique for each new region feature.

Monitoring Level: The State Data Steward in conjunction with the District Data Stewards are responsible for reviewing the WEEDS theme across the state at least once per year. Suggested checks include the following: (1) consistency between districts in attributing (same values used to mean same thing -- data collection methods can be different as long as attributes used consistently), (2) progress toward similar levels of accuracy, (3) areas lacking adequate inventory or currency.

DATA ORGANIZATION/STRUCTURE

This coverage is called WEEDS and has only one subclass, also called WEEDS. All of the attributes are to be attached only to subclass WEEDS (the INFO data file is called .patWEEDS). The .patWEEDS items description should look like the following table. The Arc generated items (AREA, PERIMETER, WEEDS#, WEEDS_ID) are not shown.

Formal Structured Name	Arc/Info Item Name	Type
BLM_DISTRICT_CD	DIST_CD	A2
LOCATIONS_GIS_IDENTIFIER	GIS_ID	I9
LOCATIONS_SITE_IDENTIFIER	SITE_ID	I9
PLANT_SPECIES_TAXONOMIC_CODE	SPECCODE	A8
LOCATIONS_ACCURACY_CODE	ACC	A5
PLANT_SAMPLE_QTY	NUM_PLTS	I9
UNIT_OF_MEASURE_VEGETATION_CODE	UNIT_MEAS	A5
WEED_SITE_OCCUPANCY_CODE	OC_CD	A1
WEED_SITE_DISCOVERY_DATE	DISC_DATE	VA8
WEED_SITE_REVISITATION_DATE	REV_DATE	VA8

BLM_DISTRICT_CD (DIST_CD)
Description
[Required]

A unique identifier for a BLM District within a BLM Administrative Area. Examples of codes:

   01 = Lakeview   03 = Vale

FOIA Category = Public

Check

Low Value:	01
High Value:	13
Format:	A(2)
Uppercase:	N/A
List of Values:	01 Lakeview
	02 Burns
	03 Vale
	05 Prineville
	08 Salem
	09 Eugene
	10 Roseburg
	11 Medford
	12 Coos Bay
	13 Spokane

LOCATIONS_GIS_IDENTIFIER (GIS_ID)
Description
[Required]

GIS assigned numeric (integers only) identifier for every ARC Region feature. GIS_ID is never duplicated in the database. Used in conjunction with SITE_ID to track changes in the extent of a weed population over time. If a site has increased or decreased in size, the old population extent may be kept for historical reference. The new population extent would be assigned the same SITE_ID value, but a unique GIS_ID value. The OC_CD value of new population extent would be coded 'C' and the old population (region) is changed from 'C' to 'H'.

FOIA Category = Public

Check

Format:	I(9)
Uppercase:	N/A

LOCATIONS_SITE_IDENTIFIER (SITE_ID)
Description
[Required]

Unique number assigned to each new noxious weed site (infestation). When used in conjunction with DIST_CD, the SITE_ID is uniquely identified in OR/WA. This is the linking field to external user databases. SITE_ID may be duplicated in the database. In a scenario where an old population extent is kept for historical reference, the OC_CD Value for that old area (region) is changed from 'C' to 'H', but no other attribute is changed. Initially, SITE_ID = GIS_ID but SITE_ID may be kept the same for different GIS_IDs in order to track the change in a site's areal extent over time. In other words there can be >1 GIS_ID for every SITE_ID but not vice versa.

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Format:	I(9)
Uppercase:	N/A

PLANT_SPECIES_TAXONOMIC_CODE (SPECCODE)
Description
[Required]

An acronym constructed following the Garrison-Skovlin_Poulton system to represent a plant genus/species. Also called a Plant Symbol. Codes are assigned by the USDA National Resource Conservation Service (NRCS) national botanist. The approved symbols can be found at:

USDA, NRCS 1999. The PLANTS database (http://plants.usda.gov/plants). National Plant Data Center, Baton Rouge, LA 70874_4490 USA.

Each different species becomes a separate region even if in exactly the same area.

FOIA Category = Public

Check

Format:	A(8)
Uppercase:	Yes

LOCATIONS_ACCURACY_CODE (ACC)
Description
[Required]

Locational accuracy code which indicates how close to the true geographic location on the ground a GIS entity has been recorded. There are two aspects to accuracy: the tools used to get spatial entities into a GIS (turned into digital representations), and the actual accuracy -- how far off (+ or _ feet) is the digital product. Three types of tools are recognized: GPS (global positioning system), Manuscripting onto a map or photo, and legal descriptions using Township, Range, and Section.

Also note that ACC is NOT a source for polygon overlap. If there is a change in accuracy, the old region is replaced by the new. Only the most accurate regions are maintained on these coverages.

FOIA Category = Public
Annotation
Locational Accuracy Codes:

GPS
    GPS1 = within 3 feet.
    GPS2 = within 30 feet.
    GPS3 = within 300 feet.

Manuscripting
    MAN1 = within 40 feet
    MAN2 = within 100 feet
    MAN3 = within 150 feet.
    MAN4 = within 300 feet.
    MAN5 = within 660 feet (one_eighth mile).
    MAN6 = within 1,320 feet (one_quarter mile).
    MAN7 = within one_half mile.
    MAN8 = best estimate with no distance limit indicated.

Township and Range - The TR accuracy code is different from GPS and MAN. It is ONLY used where the site location is recorded only by a Township/Range/Section AND no attempt to try to locate it on a map is made. For example, a weed siting recorded only by T/R/S may still be locatable along a road going through that section and given the appropriate MAN accuracy (probably MAN4 or MAN5). If, however, no reasonable assumptions are

possible, the TR codes are useful. In these cases, a point is placed in the center of the section, ¼ section, etc., and labeled with TR10 for a ¼ ¼ ¼ section (located to with 10 acres); TR40 for a ¼ ¼ section (within 40 acres); TR160 for a ¼ section (within 160 acres), TR320 for a ½ section (within 320 acres) and TR640 for a section record (within 640 acres). These points are buffered to 1 meter to make polygons since regions are built only on polygons.

   TR10 = located to within 10 acres (1/4 1/4 1/4 section).
   TR40 = located to within 40 acres (1/4 1/4 section).
   TR160 = located to within 160 acres (1/4 section).
   TR320 = located to within 320 acres (1/2 section)
   TR640 = located to within 640 acres (1 section).

PLANT_SAMPLE_QTY (NUM_PLTS)
Description
[Required]

The number of individual plants that infest a particular weed site. Can also represent the number per unit of measure (e.g., 100 plants per acre) when used in combination with UNIT_MEAS (UNIT_OF_MEASURE_VEGETATION_CODE).

FOIA Category = Public

Check

Format:	N(9)
Uppercase:	N/A

UNIT_OF_MEASURE_VEGETATION_CODE (UNIT_MEAS)
Description
[Required]

Standardized abbreviations for length, weight, and area in English and metric units of measure. This attribute will only be used in conjunction with other attributes to modify or explain the precise relationships and meaning of the data.

FOIA Category = Public
Annotation
For Weeds GIS layer, unit of measure must be populated if NUM_PLTS is not null.
Check

Format:	A(5)	
Uppercase:	Yes	
List of Values:	Acre	AC
	Square Meters	SQM
	Square Miles	SQMI
	Hectares	HA
	Total count, no units applied	TOTAL

WEED_SITE_OCCUPANCY_CODE (OC_CD)
Description
[Required]

Defines whether an area is currently occupied by a weed, no longer occupied by a weed, or if a change in the extent of a weed population has occurred. If a site has increased or decreased in size, the old population extent may be kept for historical reference and the OC_CD value for the old population (region) is changed from 'C' to 'H'. The new population extent would be coded 'C' and be assigned the same SITE_ID value, but a unique GIS_ID value.

FOIA Category = Public

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Format:	A(1)
Uppercase:	Yes
List of Values: CURRENT INFESTATION	C

WEED_SITE_DISCOVERY_DATE (DISC_DATE)
Description
[Required]

The date which the site was originally discovered (YYYYMMDD). Enter as much of the date as you know. If only the year is known then enter just the year. Do not guess or make dummy entries for month and day if they are unknown.

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Format:	A(8)
Uppercase:	N/A

WEED_SITE_REVISITATION_DATE (REV_DATE)
Description
[Required]

The most recent date that the site was revisited (YYYYMMDD).   Enter as much of the date as you know. If only the year is known then enter just the year. Do not guess or make dummy entries for month and day if they are unknown.

FOIA Category = Public

Check

Format:	A(8)
Uppercase:	N/A